



Basics of Cost Management and Activity Based Costing



Agenda

- **Introduction to Cost Management**
- **Activity Based Costing Concepts**
- **Activity Based Costing Model Components**
- **Activity Based Cost Management**
- **Summary**



Learning Objectives

Upon completion of this section, participants will be able to:

- **Understand the fundamental concepts of Cost Management and Activity Based Costing and Management (ABC/M)**
- **Differentiate between elements of an Activity Based Cost model**



Cost Measurement

Cost Measurement Is a Prerequisite To Cost Management

What Gets Measured Gets Done...



Cost Measurement Basics

Why should we measure costs?

- ♦ To change behavior and reduce costs
- ♦ To improve profits
- ♦ To ensure proper reimbursement for services
- ♦ To facilitate continuous improvement
- ♦ To assess improvement

How should we measure cost?

- ♦ Measure only what is necessary
- ♦ Compare with cost goals/objectives
- ♦ Target cost measurement to proper organizational level (perspective)

Establish a baseline (status quo)

- ♦ Provides a starting point from which to measure improvement
- ♦ Must ensure baseline is normalized and consistent



Definition: Cost Management

The practice of understanding what causes cost to occur and then using that information to achieve a more desirable outcome. Benefits include:

- ♦ Reducing cost and preserving resources for other Army missions
- ♦ Supporting continuous improvement and accountability
- ♦ Increasing the capability to satisfy customer demand
- ♦ Analyzing value provided by activities



What Does Cost Management Do?

- **Seeks to understand true economic cost and cause-effect relationships**
- **Identifies drivers of resource consumption with reasonable, but not precise, accuracy**
- **Promotes better resource management**
- **Eliminates free goods**
- **Stimulates behavioral change**
- **Enables accountability/reward for cost management**



Cost Management Looks Ahead

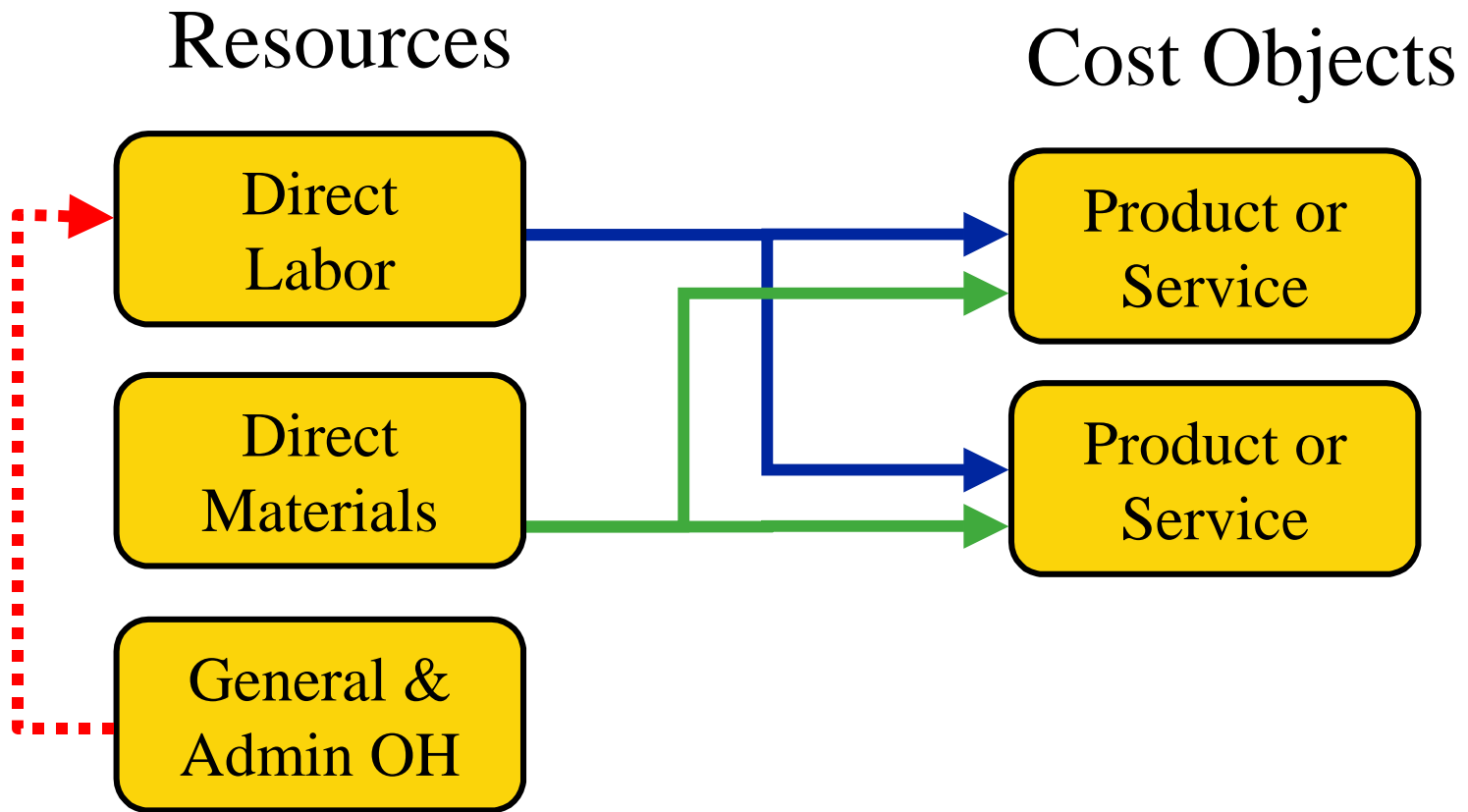
Financial accounting records past resource consumption

A budget allocates assigned resources

Cost management projects future costs, takes actions to control these costs, and reallocates resources to improve productivity - all within assigned resources



Traditional Costing - 1 Step Allocation





Traditional Costing: Cost Terms

MANUFACTURING COSTS (PRODUCT/INVENTORABLE/PROCESS COSTS)

Direct Materials

Can be physically/
conveniently traced to a
finished product (steel in a
car, lumber in a building
repair)

Direct Labor

Can be physically traced
to the making of a
product (assembly line
workers, carpenters)

Manufacturing Overhead

All costs other than direct
materials/labor (indirect
materials/labor, factory
utilities, shop clean-up)

NON-MANUFACTURING COSTS (PERIOD/GENERAL SUPPORT COSTS)

Planning/Distribution

All costs necessary to secure customer
orders and get finished product or
service to the customer (sales
commissions, advertising, depreciation,
delivery trucks)

Administrative Costs

All costs associated with the general
management of the company (travel,
executive pay, office rental/
equipment, front gate security)



Traditional Costing

Traditional cost systems manage dollars (resources).

How would you reduce costs by 10%?

Warehouse Budget

Labor	\$ 250,000
Supplies	120,000
Equipment	60,000
Other	<u>32,000</u>
Total	\$ 462,000



Shortcomings of Traditional Costing

- ◆ **Information about the true cost of doing business either does not exist or is distorted through arbitrary allocations**
- ◆ **There is no relationship between the cost of a product or service and the actual effort expended**
- ◆ **Due to lack of relevant cost information, efforts to reduce costs are often not directed toward the areas which consume the most significant resources**
- ◆ **The cost information provided today is after the fact – historical reporting**
- ◆ **Traditional cost systems do not address the true drivers of overhead costs**



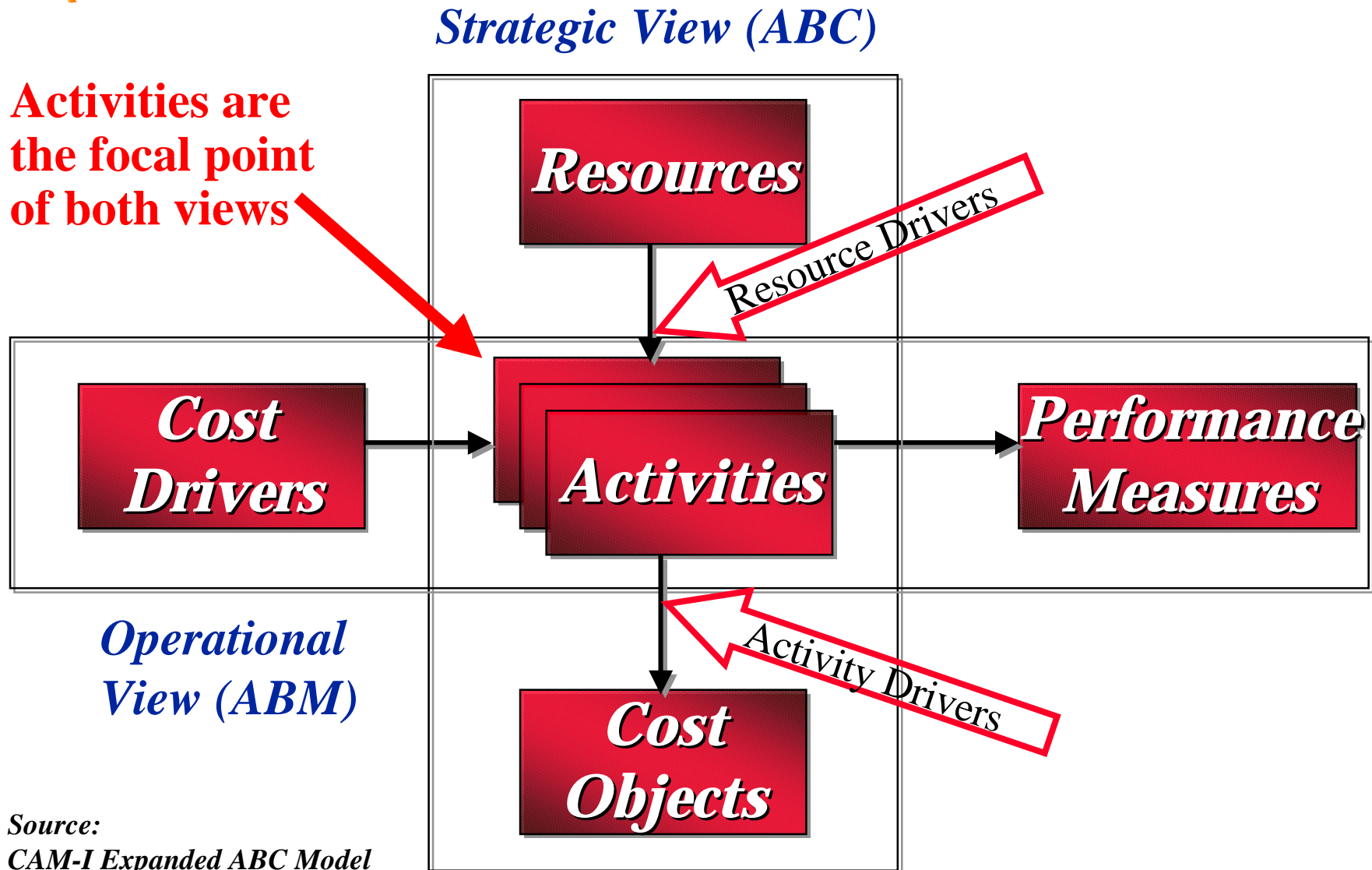
ABC/M Definitions

Activity Based Costing (ABC) is a methodology that identifies and analyzes costs associated with activities and links those costs to products, services, customers, and other “cost objects” based on their consumption of those activities

Activity Based Management (ABM) is the broad discipline that focuses on achieving customer value through the management of activities. It draws on activity-based costing (ABC) as a major source of information

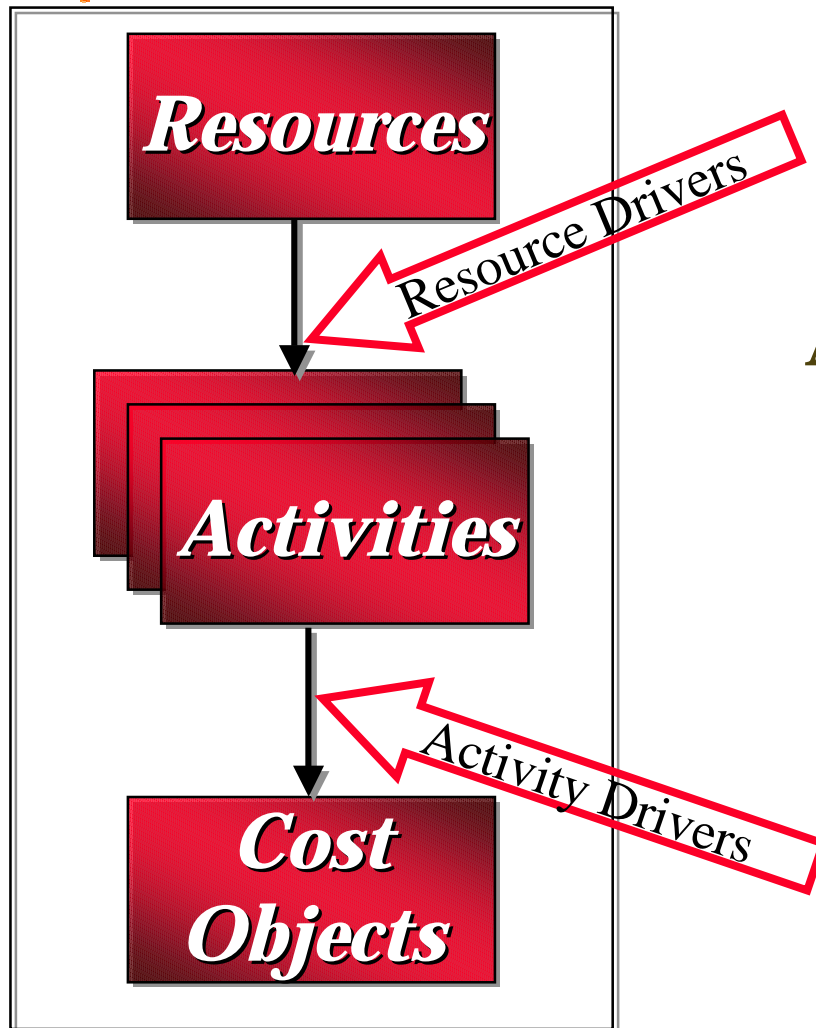


The CAM-I Cross





Activity Based Costing



Strategic Cost Assignment View

A method of *measuring* the cost and performance of activities and the products and services that consume those activities.



Why ABC?

In 1950's, 70% direct labor and materials & 30% overhead

In 1990's, 30% direct labor and materials & 70% overhead

Government uses for ABC:

- ♦ **Improve process and operating efficiency**
- ♦ **Measure performance**
- ♦ **Establish reimbursement rates**
- ♦ **Align resources and activities to strategic plan**
- ♦ **Support competitive sourcing studies**



Activity Based Costing

Activity based costing systems measure work (processes)

Would you make a different decision about how to save 10%?

Warehouse Activities

Receive material	\$ 137,000
Store material	36,000
Deliver material	169,000
Expedite material	<u>120,000</u>
Total	\$ 462,000



The Basic Principles of ABC

- ◆ A cost is incurred when people do things (take orders, produce products, manage inventory, and load trucks)
- ◆ The business organization is not separate independent departments, but a series of interrelated processes, which in turn consist of cross-functional activities (staple yourself to an order and flow through your organization)
- ◆ Costs are best influenced at the source - the activity level - where people use resources in the process of creating value for customers
- ◆ The goal is to increase the proportion of value-adding activities as seen from your customer's perspective
- ◆ This is accomplished by providing your managers with relevant, timely information about activities and their costs



Why Activities?

Activities:

- ◆ **Consume resources**
- ◆ **Represent what is done within an organization**
- ◆ **Are the focus of line managers**
- ◆ **Provide the basis for continuous improvement**
- ◆ **Highlight department interdependencies**
- ◆ **Can be used to integrate financial and non-financial performance measures**
- ◆ **Are easily understood by diverse groups of people**



Information Benefits of ABC

- ◆ Identifies activity costs and business process costs
- ◆ Provides visibility to the root causes of costs
- ◆ Highlights and assists in focusing on significant costs
- ◆ Enhances ability to manage activities (and processes)
- ◆ Provides more accurate and reliable cost information about products and services
- ◆ Strengthens understanding of costs associated with different customers



Three Elements of a Cost Model

Process and activities:

- ♦ A cost model organizes the work that is performed in a process flow or activity structure

Assignment

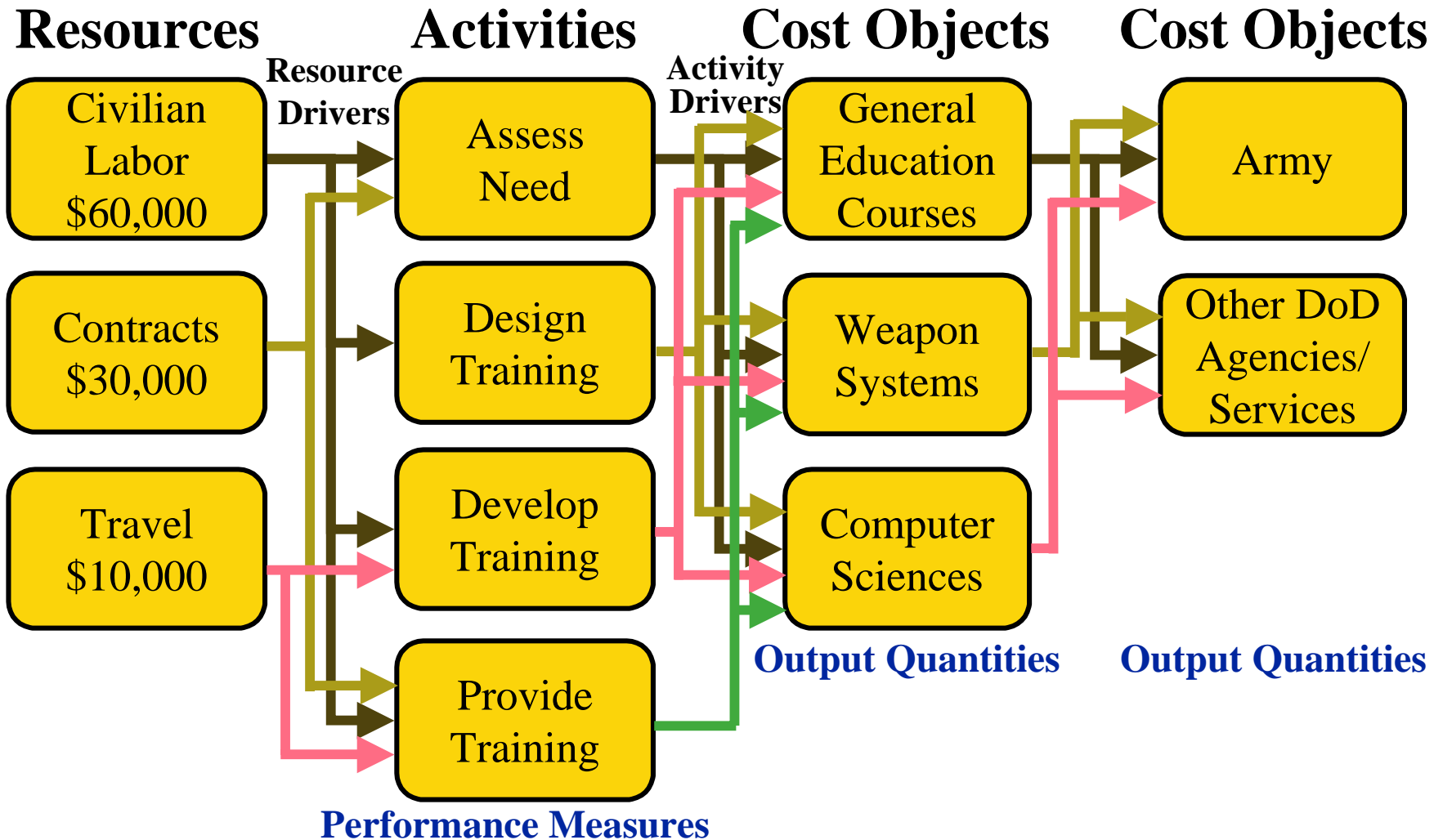
- ♦ Costs are assigned throughout the process based on the consumption of resources by activities and the consumption of activities by products, services, or customers

Systems and data

- ♦ Cost models utilize budget and operational data from financial and operational systems to determine the cost of the work that is performed and the costs attributable to products, services, or customers



Activity Based Costing Model - 2 Step Assignment



Attributes

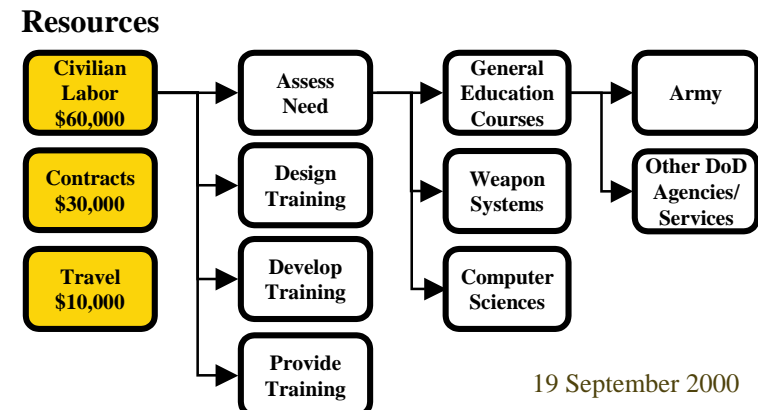


Definition: Resource

Financial inputs consumed by activities

The combination of economic elements needed to perform activities

Resources include the cost of facilities, labor, supplies, materials, equipment or machinery, technology, and any other items used in the performance of activities





Examples: Resources

Resources

Civilian Personnel

Military Personnel

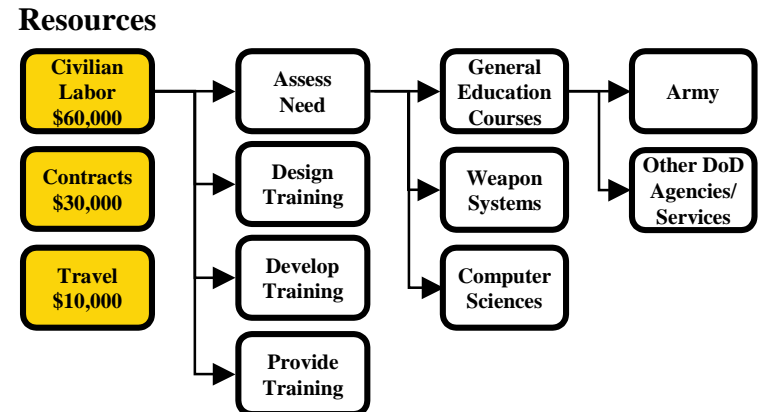
Equipment

Supplies

Travel

Facilities

Contracts

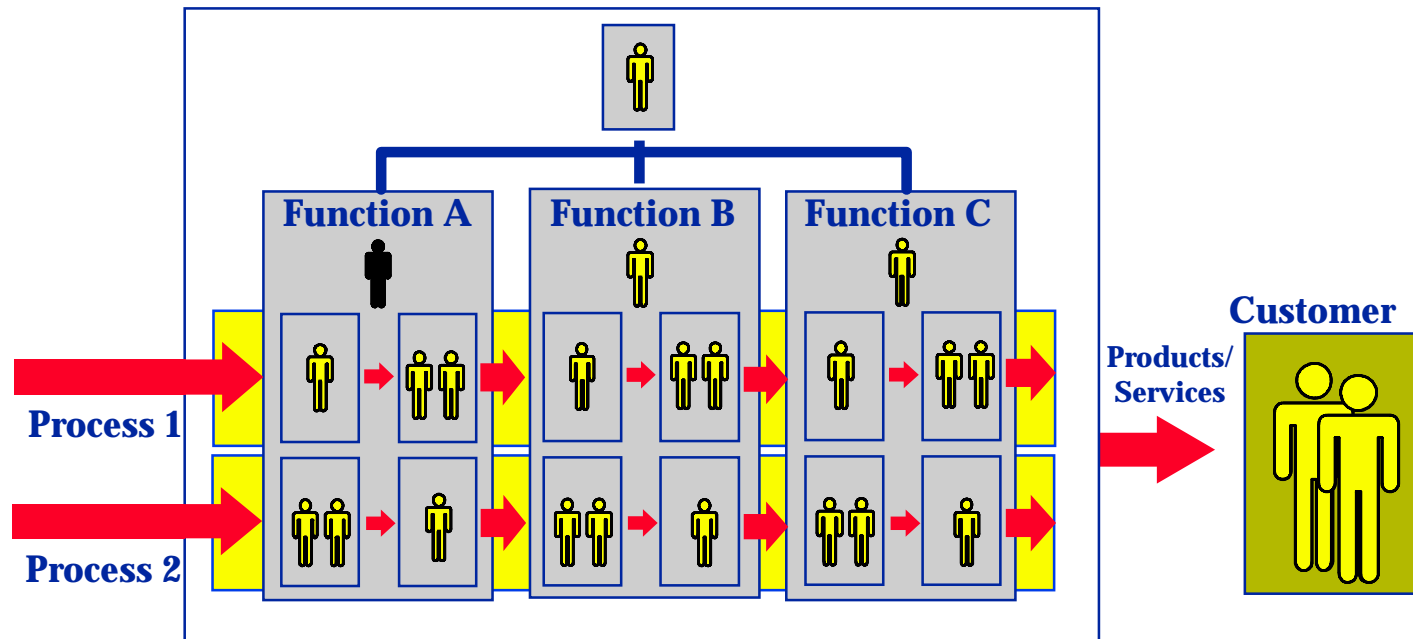




Definition: Business Process

A series of sequential and related activities that are intended to achieve a specific objective

Business processes cross departmental boundaries





Definition: Activity

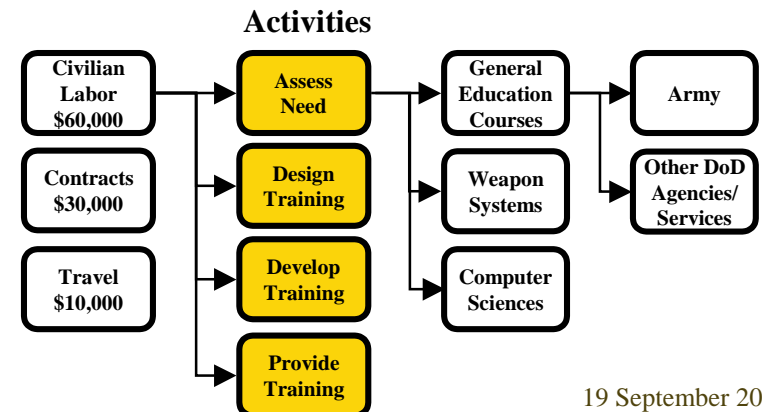
The work performed within an organization

The span between an input to and output from a department

The *aggregations of actions* performed within an organization that are useful for purposes of activity-based costing

An aggregation of tasks

Note: All of the above can also apply to Processes





Examples: Activities

Activities

Perform routine maintenance

Perform unplanned repairs

Interview candidates

Conduct orientation

Prepare unit for occupancy

Perform unplanned repairs

Perform inspection

Document inspection

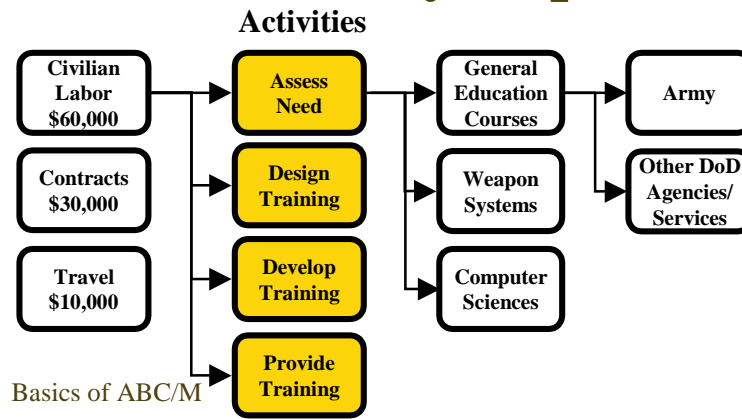
Cost Objects

Vehicles

New hires

Family housing units

Safety inspections





Definition: Cost Object

A cost object is any customer, product, process, project, or other business object for which a separate cost measurement is desired

Cost objects vary depending on the type of organization and the intended uses of the ABC model

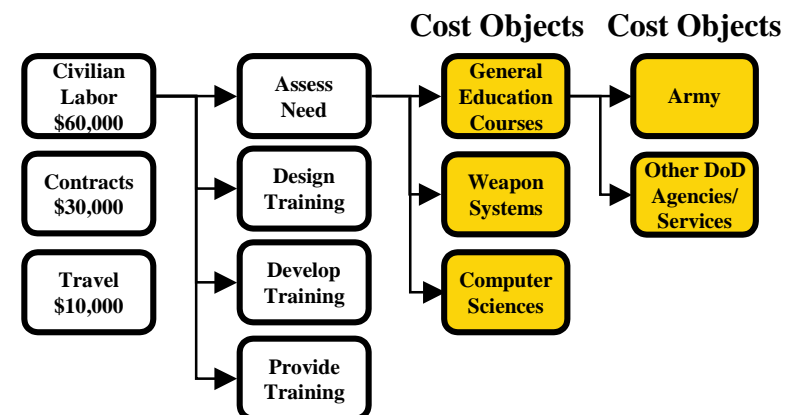
Examples

Vehicles

Family housing units

New hires

Safety inspections



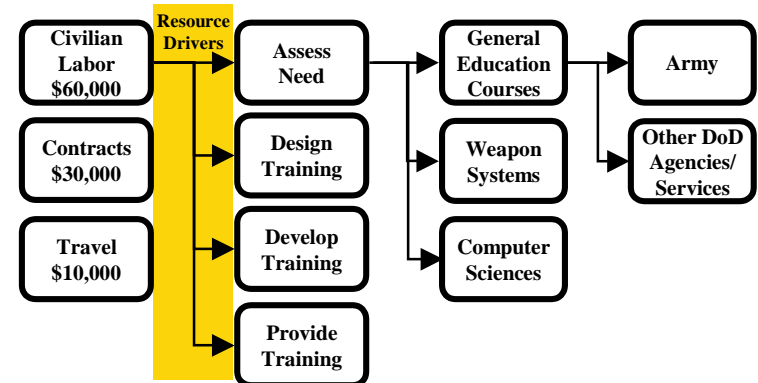


Definition: Resource Driver

A measure of the quantity of resources consumed by an activity

A method used to associate costs with activities or cost objects

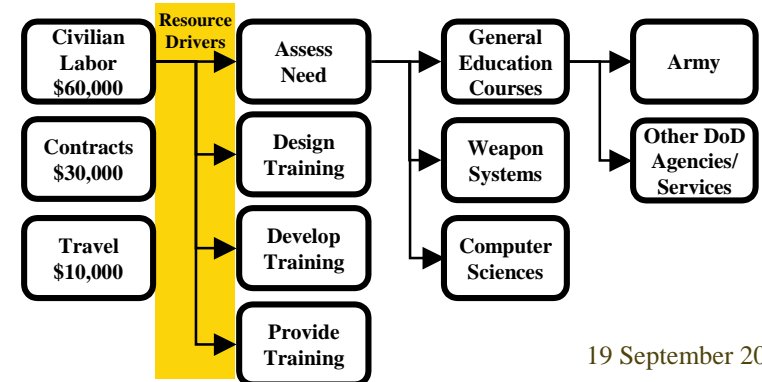
Also called a “first-stage driver”





Examples: Resource Drivers

<u>Resource</u>	<u>Resource Drivers</u>
Civilian Personnel	% of labor hours
Military Personnel	# of labor hours
Supplies	# of FTEs
Travel	# of trips
Contracts	# of labor hours
Facilities	# of sq. ft. occupied



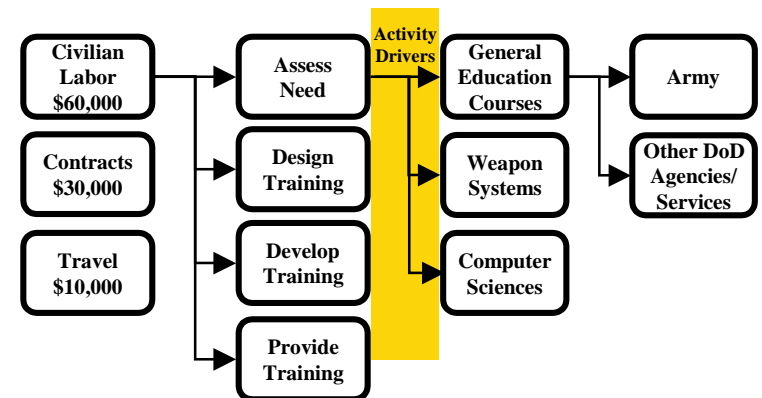


Definition: Activity Driver

A measure of the frequency and intensity of the demand placed on an activity by a cost object

A method used to associate activities with cost objects

Also called a “second-stage driver”





Examples: Activity Drivers

Activity

Activity Driver

Perform routine maintenance

of servicings

Perform unplanned repairs

of labor hours

Interview candidates

of interviews

Conduct orientation

of sessions

Prepare unit for occupancy

of moves

Perform unplanned repairs

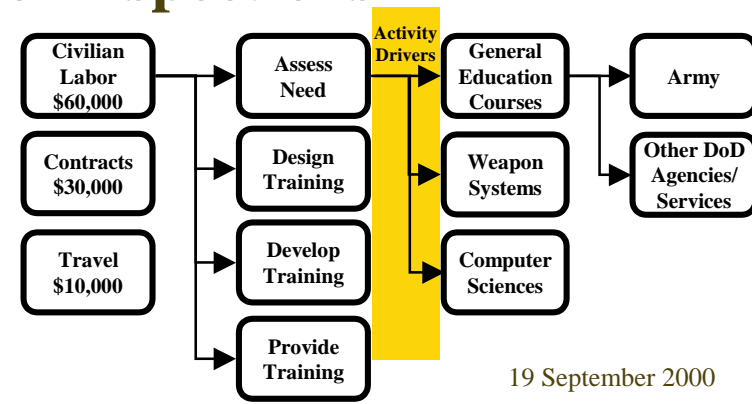
of labor hours

Perform inspections

of labor hours

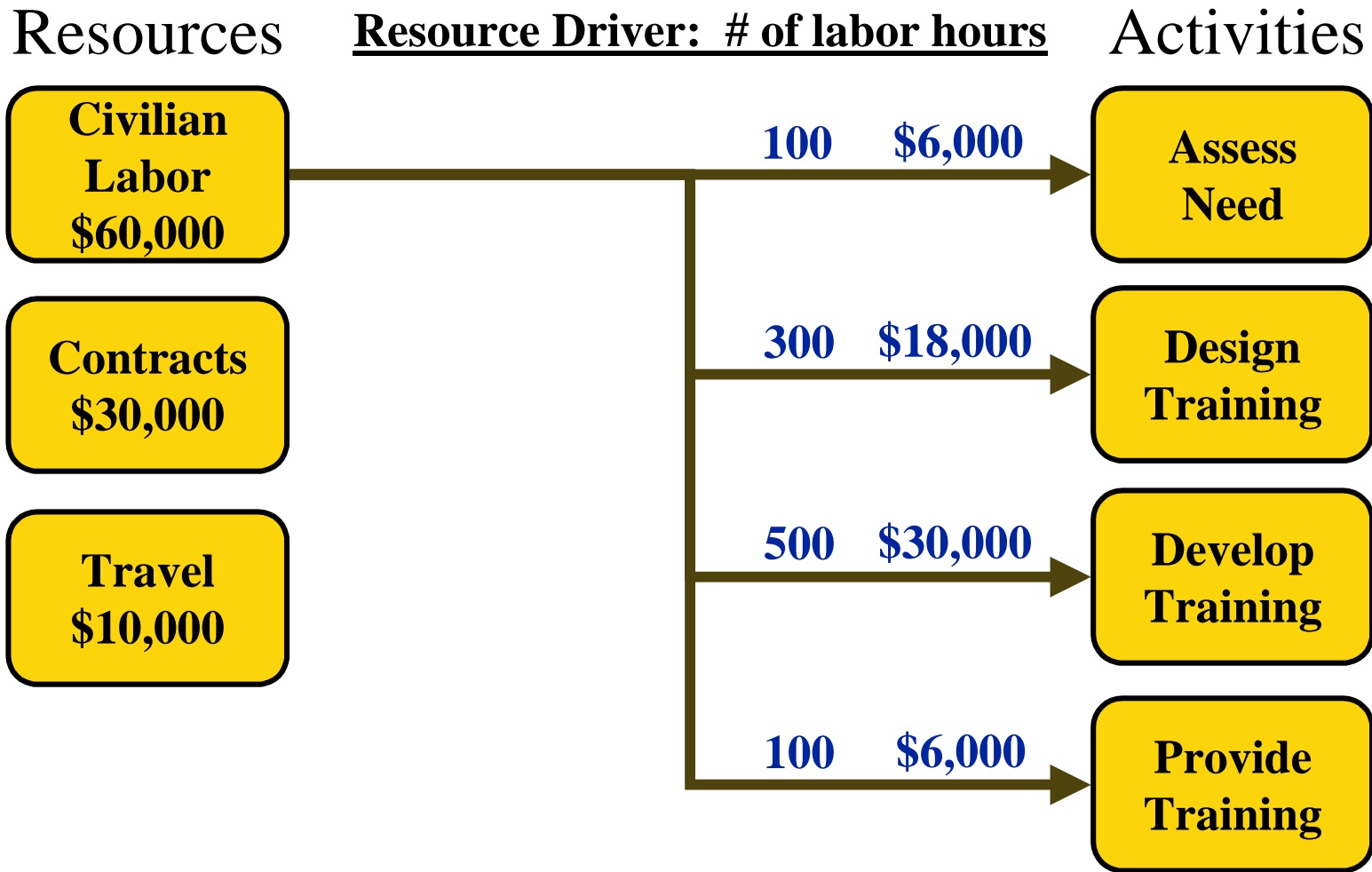
Document inspections

of inspections



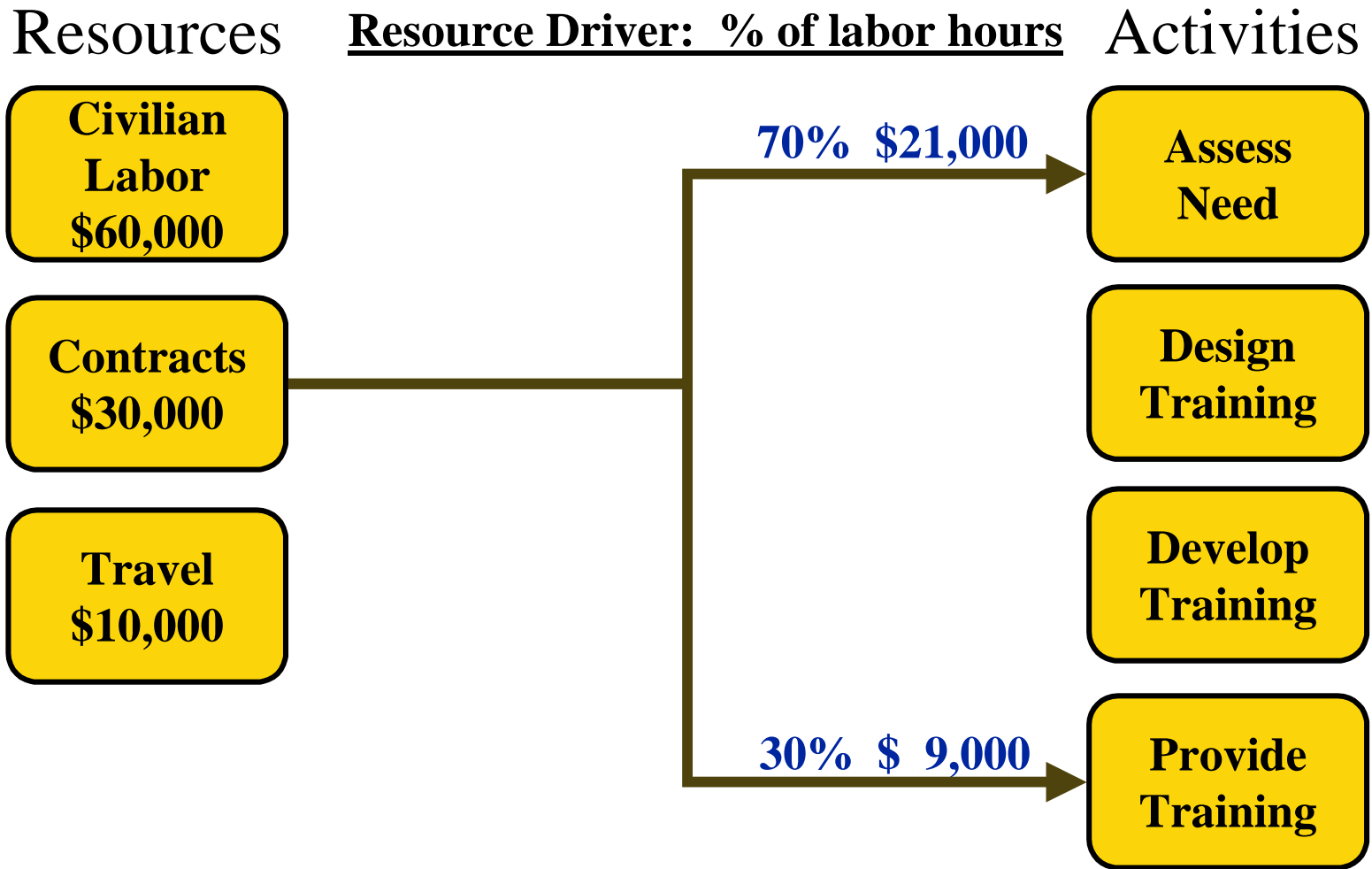


Activity Based Costing Model - 1st Stage Assignment





Activity Based Costing Model - 1st Stage Assignment





Activity Based Costing Model - 1st Stage Assignment

Resources

**Civilian
Labor
\$60,000**

**Contracts
\$30,000**

**Travel
\$10,000**

Resource Driver: # of trips

Activities

**Assess
Need**

**Design
Training**

**Develop
Training**

**Provide
Training**

2 \$ 2,000

8 \$ 8,000



Activity Based Costing Model - 1st Stage Assignment

Resources

**Civilian
Labor**
\$60,000

Contracts
\$30,000

Travel
\$10,000

Activities

Assess Need
Resources used:
Civilian Labor \$ 6,000
Contracts \$ 21,000
Total \$ 27,000

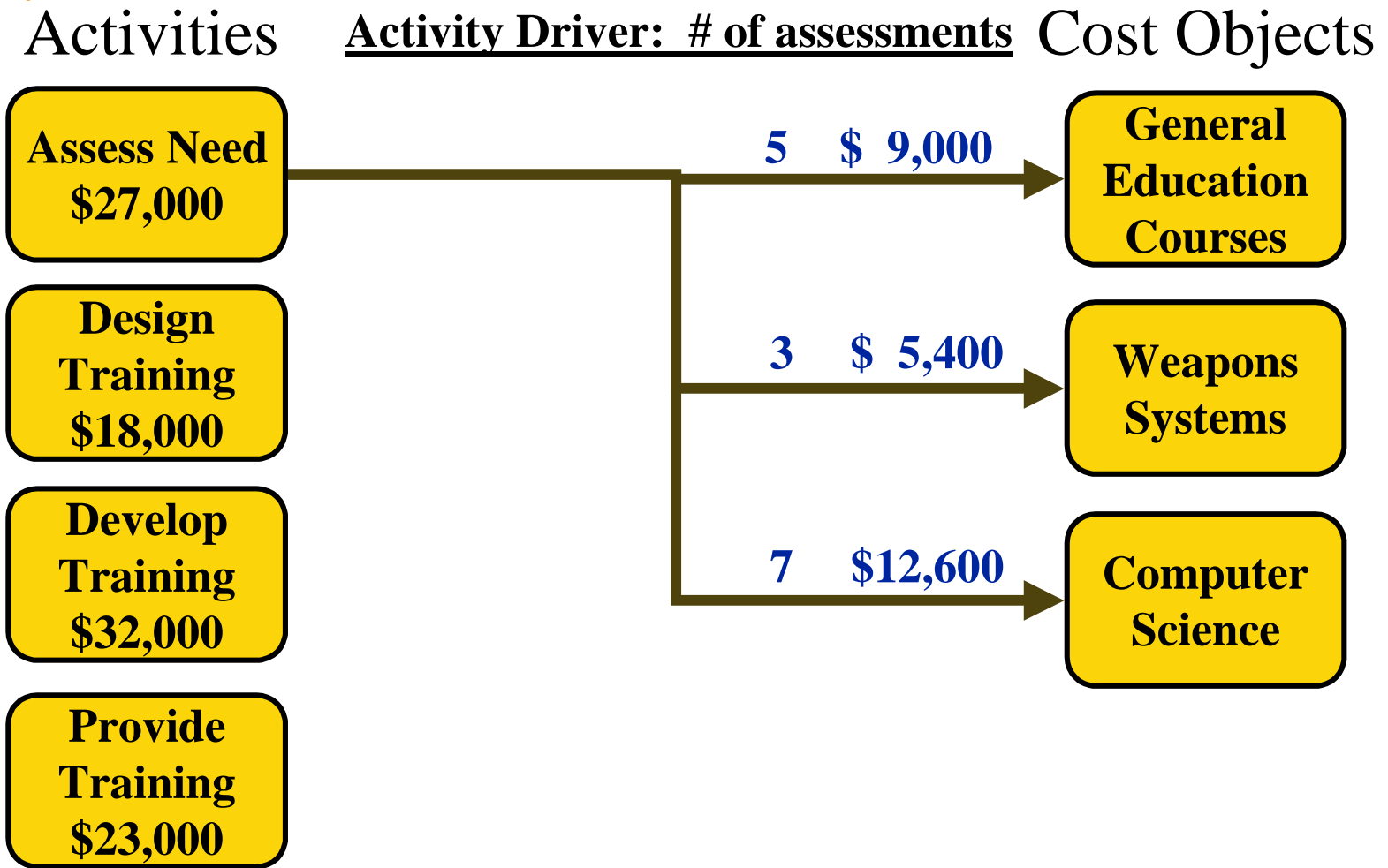
Design Training
\$18,000

Develop Training
\$32,000

Provide Training
\$23,000



Activity Based Costing Model - 2nd Stage Assignment

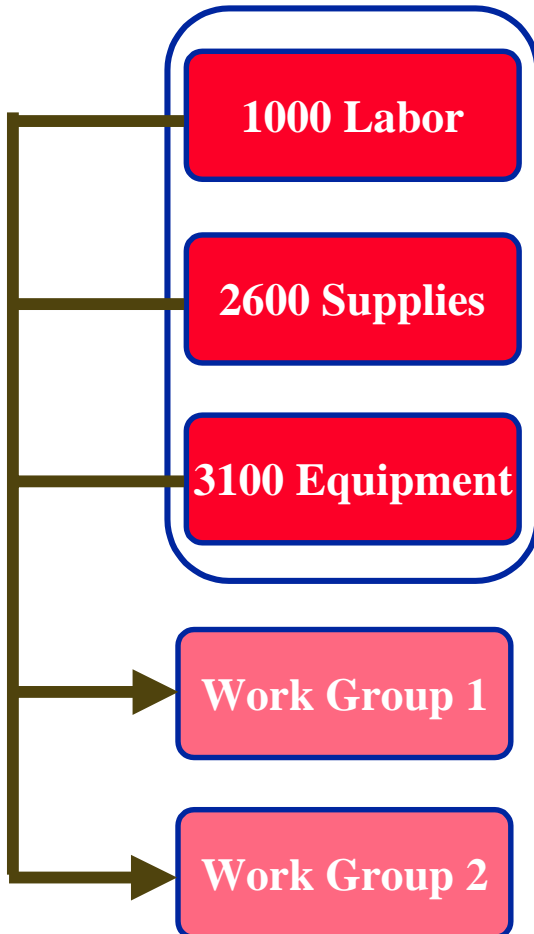




Cost Flows in ABC Model - Assigning to Work Groups

**Resource
Drivers**

Resources
General Ledger



Line Activities

Pick Up & Deliver

Perform Local
Operations

Perform Customer
Service

Support Activities

Perform Budgeting

Perform Human
Resources Services

Perform Gen Mgmt
& Admin Services

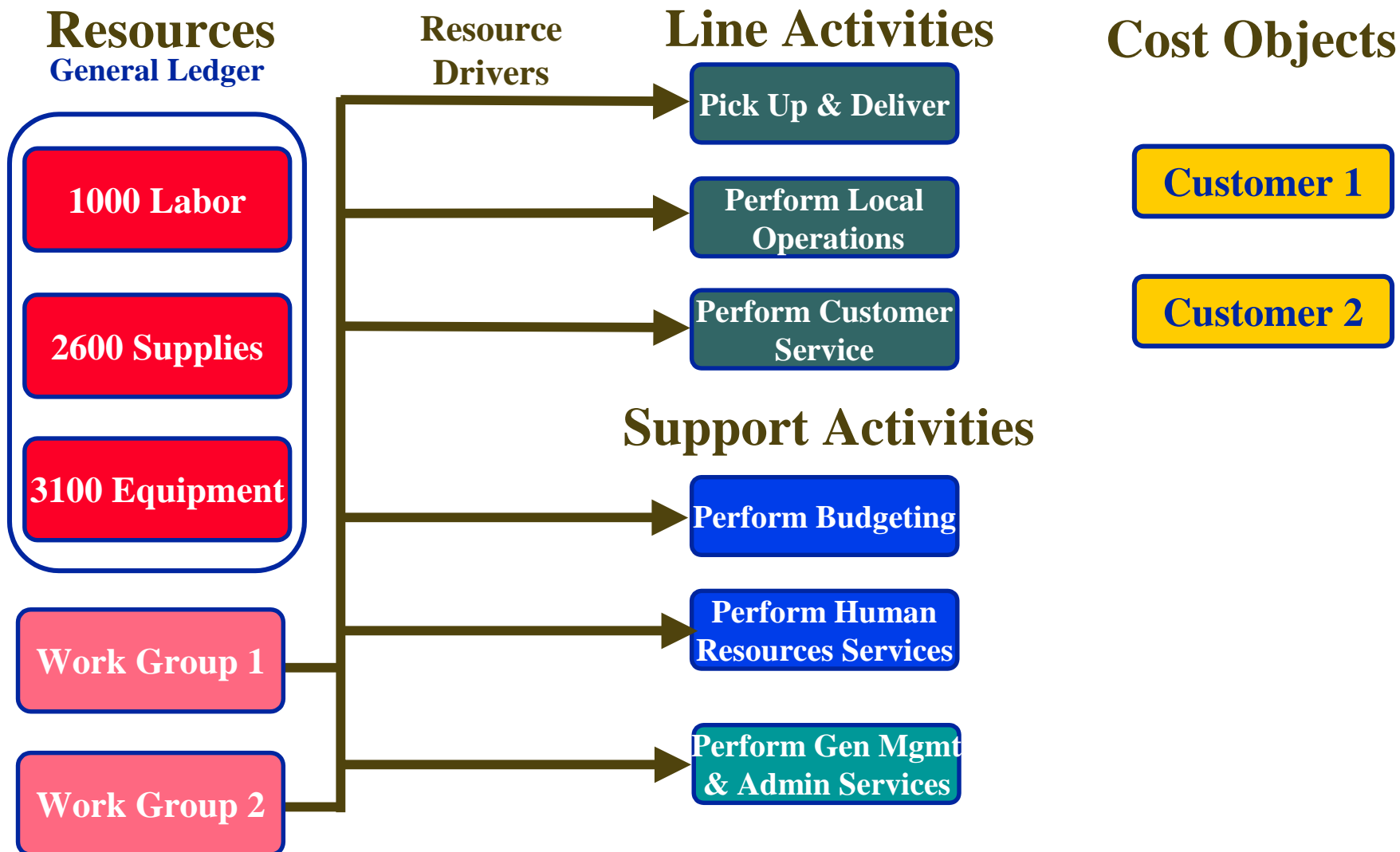
Cost Objects

Customer 1

Customer 2

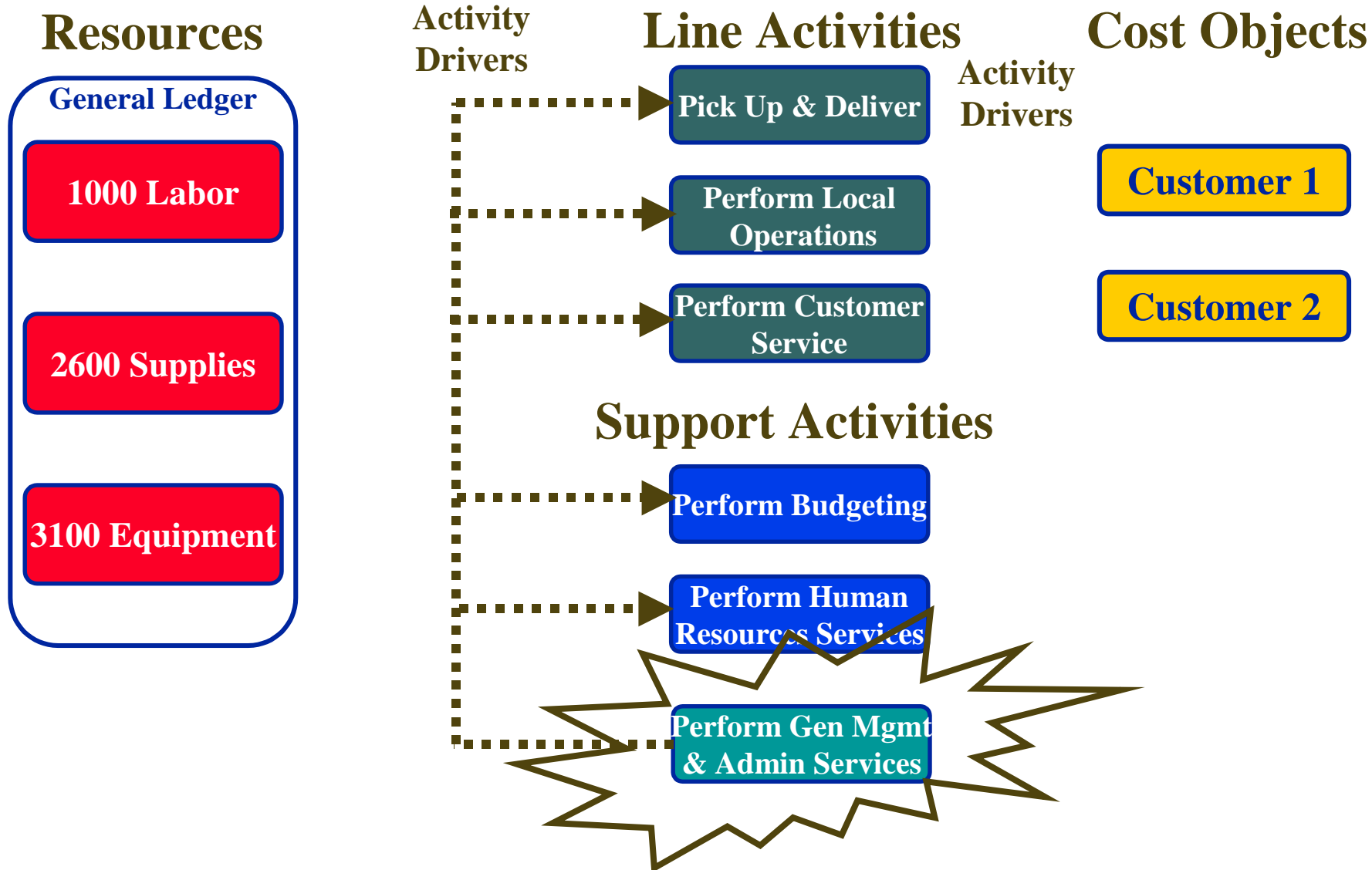


Cost Flows in ABC Model - Assigning to Activities



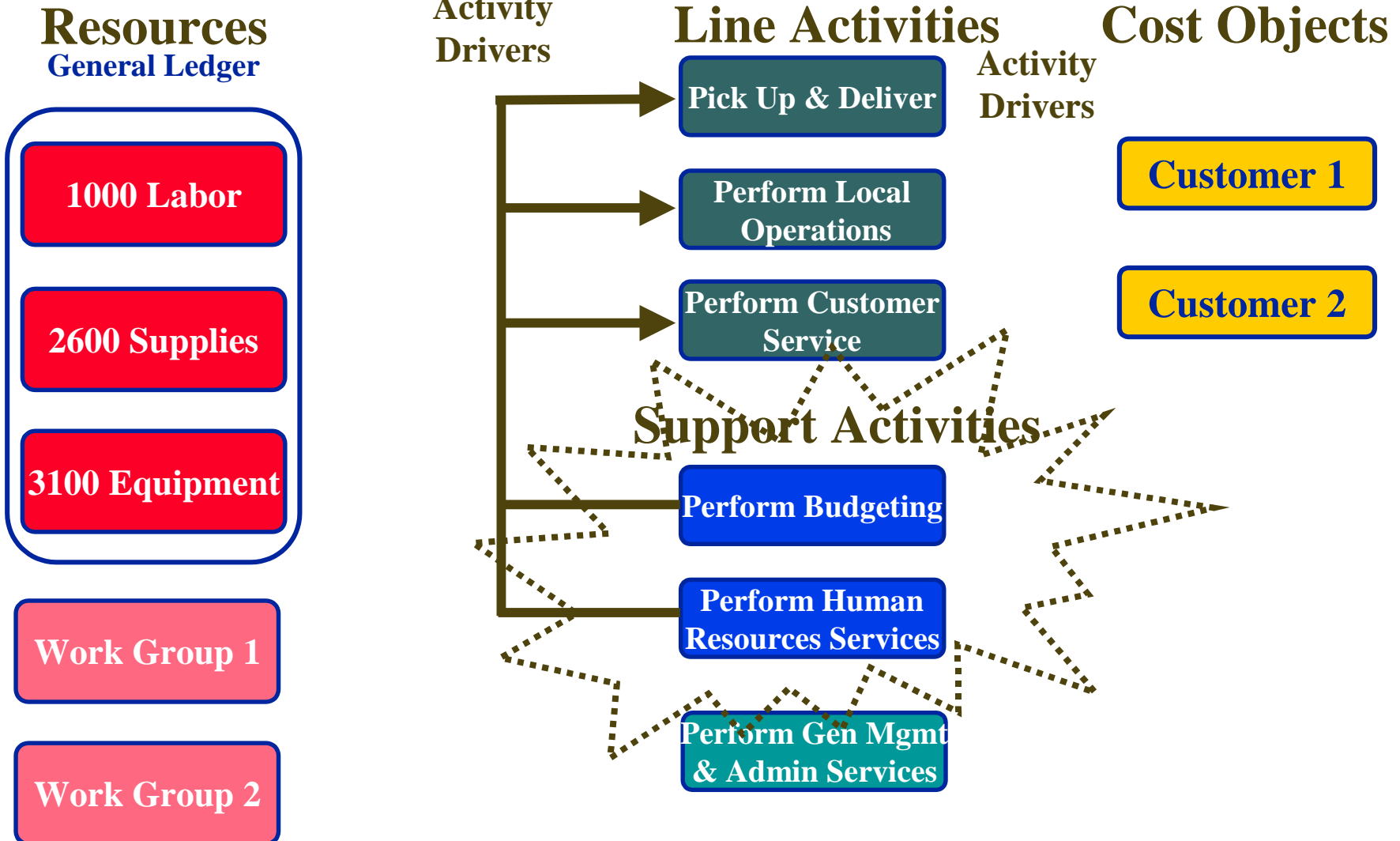


Cost Flows in ABC Model - Assigning G&A Costs



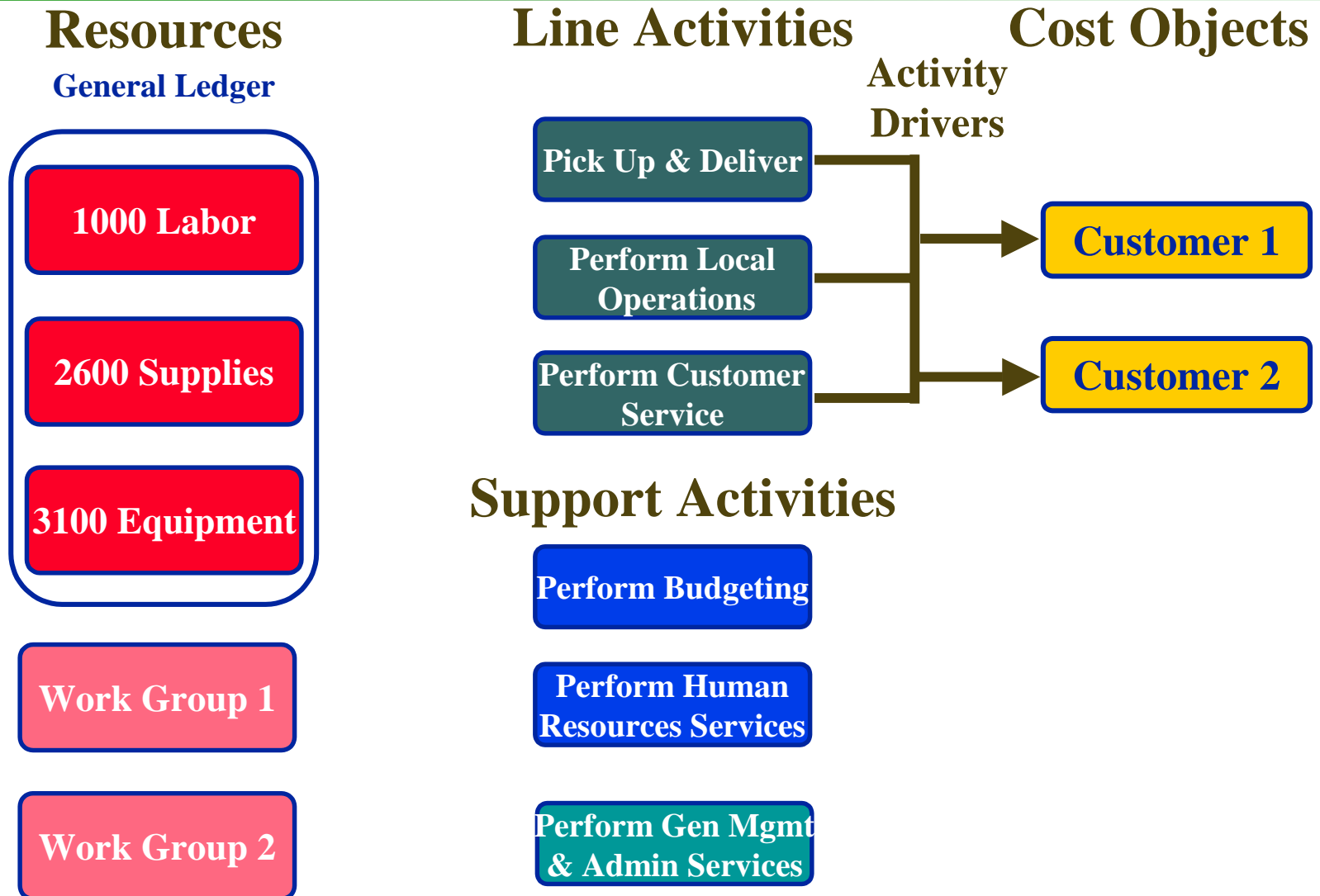


Cost Flows in ABC Model - Assigning Overhead





Cost Flows in ABC Model - Assigning to Cost Objects



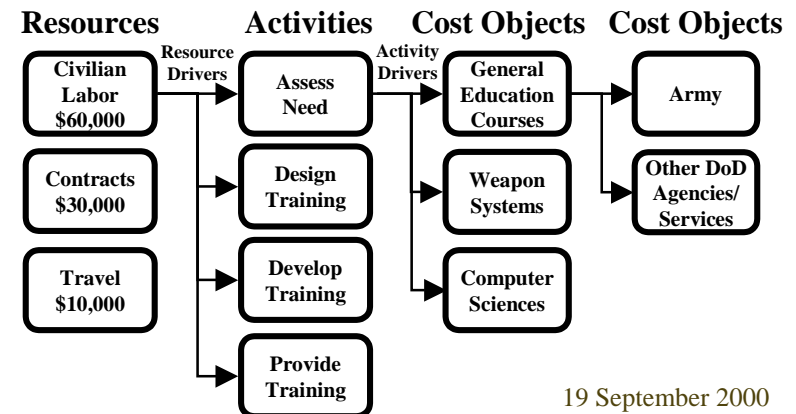


Definition: Cost Center

A group of individual resources, activities, or cost objects that together represent an area of responsibility

A group of individual resources, activities, or cost objects that presents an aggregate cost

Cost centers permit multiple levels of managers to use the same ABC model



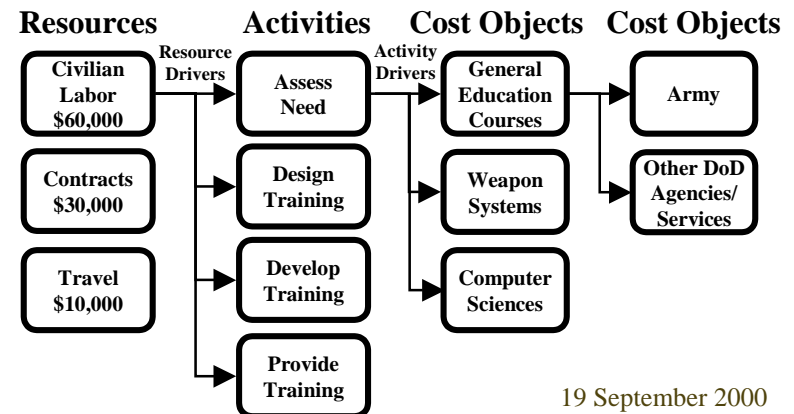


Examples: Cost Centers

Resources may be grouped to reflect organization structure

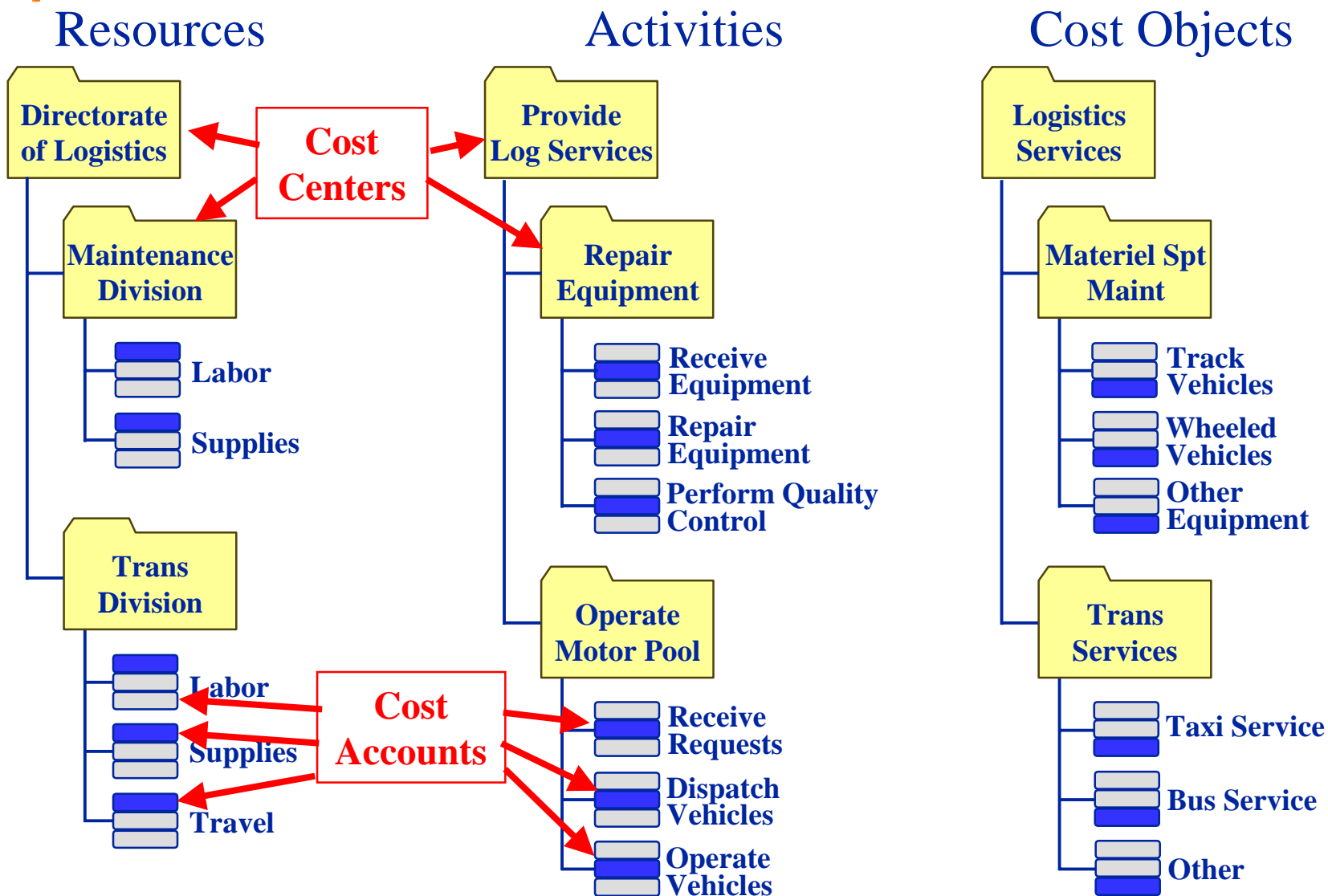
Activities may be grouped by process or sub-process

Cost objects may be grouped by product line, strategic goal, or geographic region



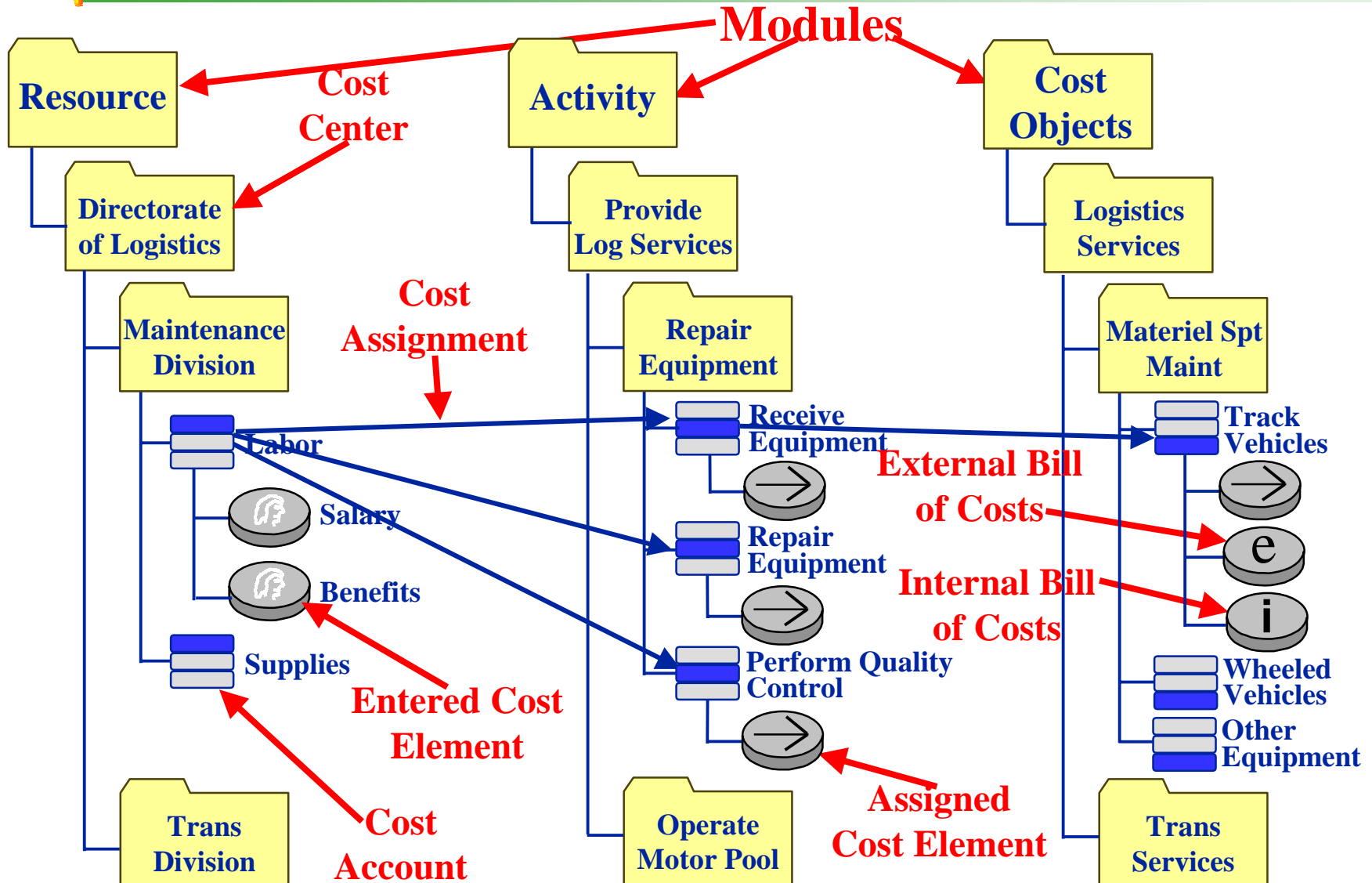


ABC Model with Cost Centers and Cost Accounts





Nomenclature Used By Oros ABCPlus





Activity Based Management

Operational Process View



A discipline that focuses on *managing* activities as the route to continuously improving the value received by customers and the profit achieved by providing this value



Definition: Attribute

A characterization or categorization of an ABC model cost center or cost account

Activity	Attribute 1 – Strategic Objectives	Attribute 2 – Mgr. Control
Assess Need	Objective 1	Not Controllable
Design Training	Objective 2	Controllable
Develop Training	Objective 2	Controllable
Perform Training	No Objective	Controllable



Examples: Attributes

Attributes

Value [Importance
to Customer]

Commander Priority

Identify Process

Effectiveness

Attribute Values

High
Medium
Low

Critical
Deferrable

Process #1
Process #2

Very Effective
OK
Needs Improvement



Definition: Cost Driver

A factor that causes a change in the performance of an activity and thereby affects the resources required by the activity

Cost drivers determine the work load and effort required to perform an activity

The “root causes” of costs

Activities may have more than one cost driver associated with them

Cost drivers may be qualitative or quantitative



Examples: Cost Drivers

Activity

Cost Drivers

Perform unplanned repairs

of labor hours

of parts required

Vehicle model

Weather/Season

Experience of mechanic

Location

**Availability of supplies
and tools**



Definition: Performance Measure

Indicators of the work performed and the results achieved by activities and processes

Measures of how well an activity or process meets the needs of its customers

Performance measures may be:

- ♦ **Cost-based**
- ♦ **Quality-based**
- ♦ **Time-based**



Examples: Performance Measures

<u>Activity</u>	<u>Performance Measure</u>
Perform unplanned repairs	Cost per repair
	Cost per hour
	Hours per repair
	Frequency of returns



Definition: Output Quantity

Unit of measure for cost objects

Total cost divided by output quantity equals cost per unit

Examples

<u>Cost Object</u>	<u>Output Quantity</u>
New hires	# of new hires
Vehicles	# of vehicles
Family housing units	# of units
Safety inspections	# of inspections



Cost vs Benefits of Data Gathering

Only need enough accuracy to lead to the optimal decision

- ◆ **Level of detail should be determined by the purpose of the model and the types of questions it will answer**
- ◆ **The threshold should be significance, not precision**
- ◆ **To begin, look for activities that consume at least 5% of resource costs**
- ◆ **Additional detail can always be added as the model matures**
- ◆ **When detail no longer needed, model can be rolled up**



ABC Supports Decision Making

Cost Analysis

- **Cost visibility and avoidance**
- **Cost validation**
- **Project costs**
- **Service or customer cost issues**

Process Management

- **Process value analysis**
- **Cost savings opportunities**
- **Continuous process improvements**

Strategic and Operational Decision Making

- **Fee-for-service and reimbursable rates**
- **Budget projects and capacity management**
- **Outsource versus in-source decisions**
- **Resource alignment**

Performance Management

- **Cost comparison across different regions or time periods**
- **Internal and external benchmarking**
- **Continuous improvement and targeting**

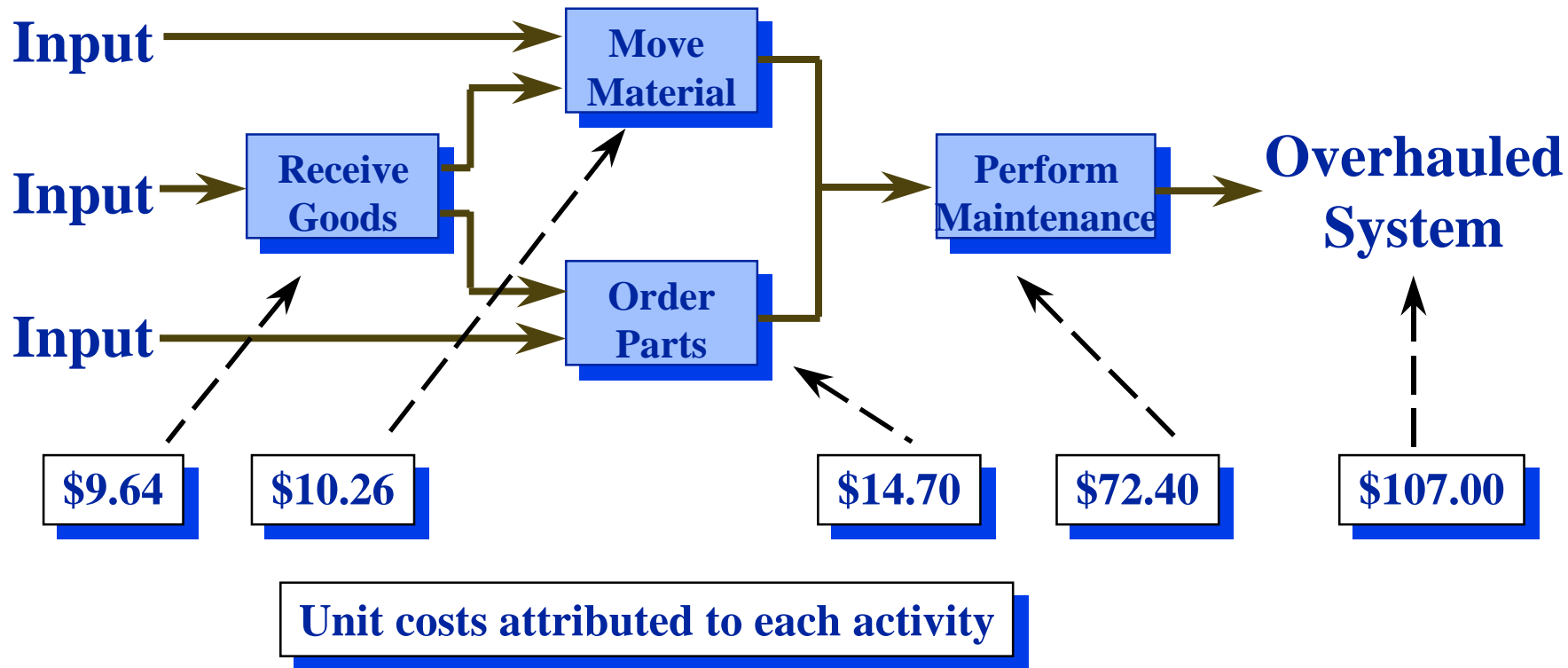


Business Process Reengineering and Continuous Improvements

Resources

Process

Customer



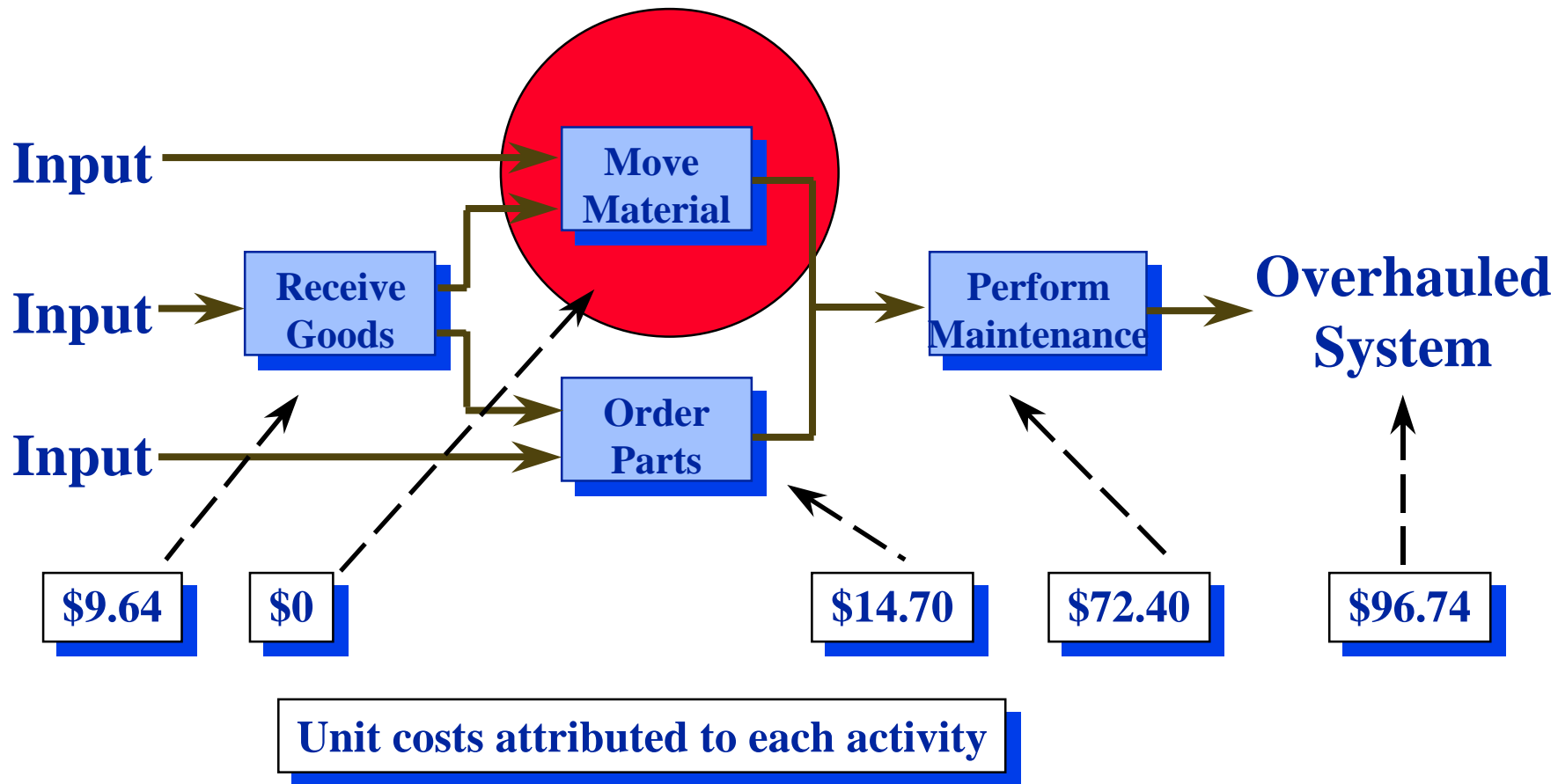


Business Process Reengineering and Continuous Improvements

Resources

Process

Customer



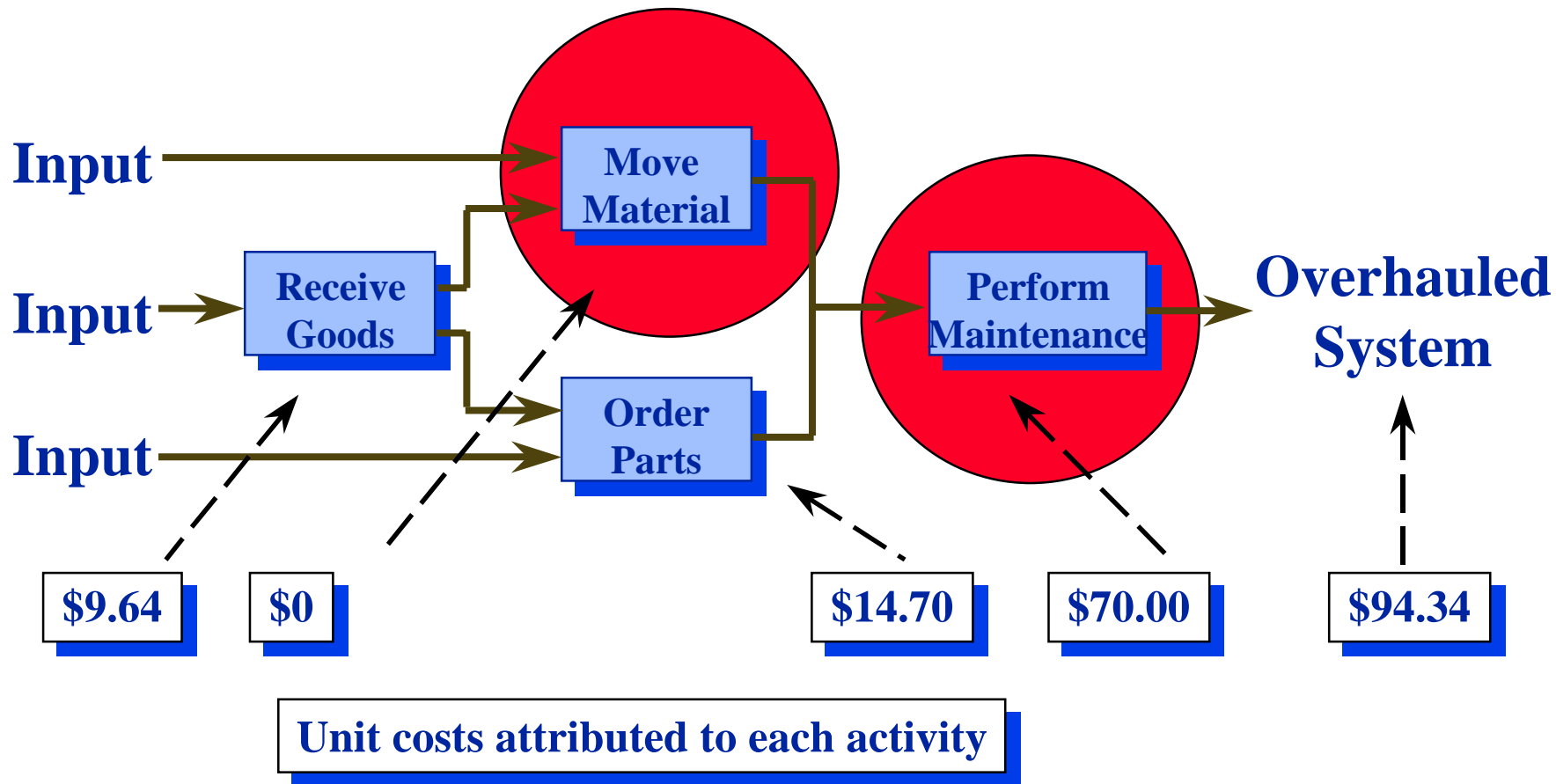


Business Process Reengineering and Continuous Improvements

Resources

Process

Customer





Cost Management and the Organization's Strategic Plan

- ◆ **Keystone document for CM and ABC/M application**
- ◆ **Combine with Leader's guidance**
- ◆ **CM results can be tied to specific goals and objectives**
- ◆ **ABC model results can track progress**



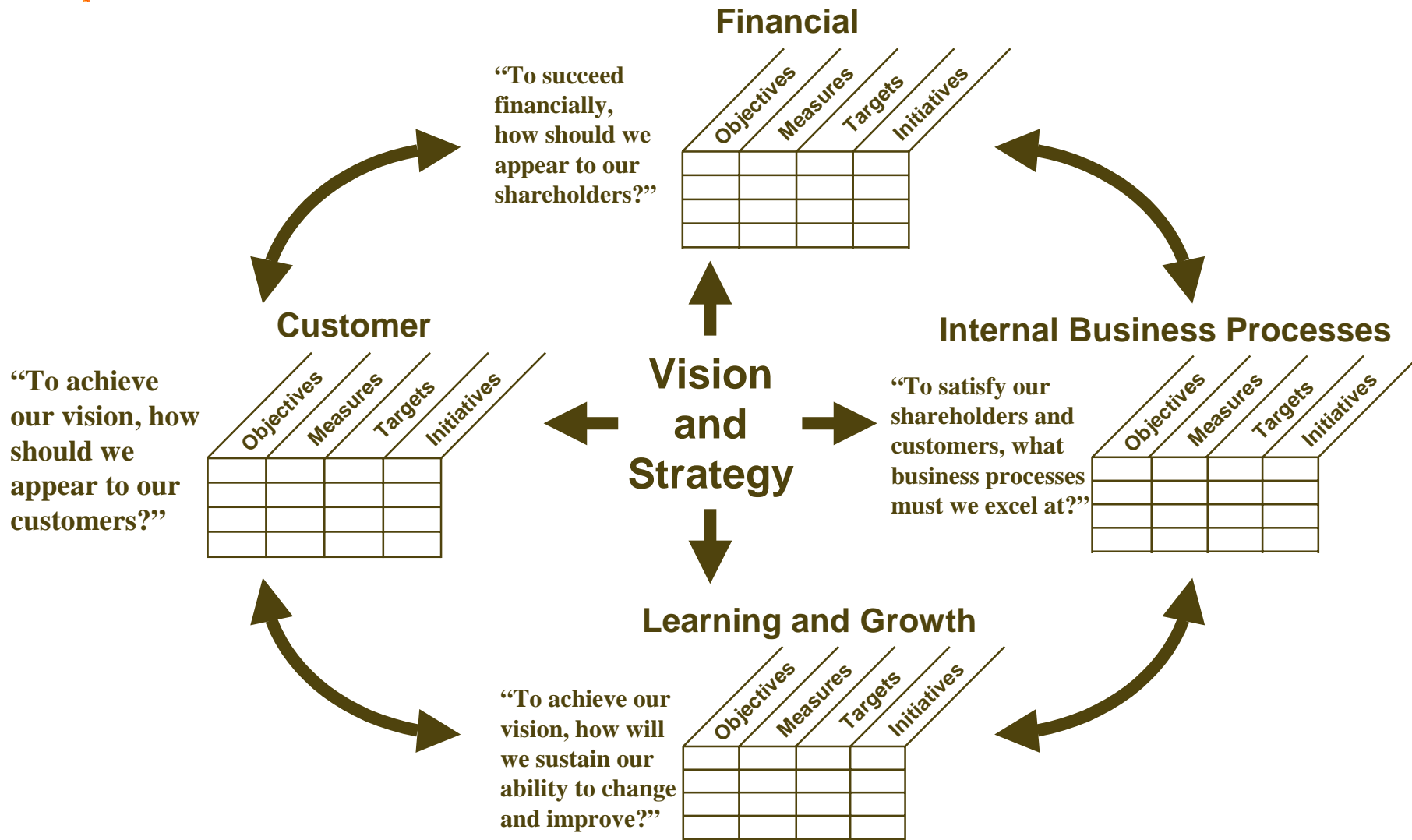
The Balanced Scorecard

The Balanced Scorecard:

- ◆ Is designed to provide a more complete picture of an organization's health than do cost/financial factors only.
- ◆ Develops performance measures in four key areas (aligns with traditional major organizational functions):
 - Financial (Cost Management)
 - Internal Business Processes (Process Reengineering)
 - Learning and Growth (Professional Development)
 - Customer (Needs/satisfaction)
- ◆ Links overall performance of the organization to performance in each of the four areas
- ◆ Can be used with ABC software to create an effective ABM system



The Balanced Scorecard Structure



Source: Robert S. Kaplan and David P. Norton, "Using the Balanced Scorecard as a Strategic Management System," *Harvard Business Review* (January-February 1996): p 76.



Balanced Scorecard's Balanced Perspectives

Produces a logic/measurement chain from leading indicators to lagging indicators





Strategic Readiness Model

The Strategic Readiness Model is a concept being developed at HQDA to:

- ♦ **Provide an enterprise-wide performance management system**
- ♦ **Develop performance measurement systems for each of the Army's 11 business areas and link them with the the Army's Unit Status Report**
- ♦ **Combine cost management with performance indicators**
- ♦ **Result in a strategic readiness indicator model**



Best Practices in ABC/M

- ◆ **A champion is required!**
- ◆ **Operations management support is critical**
- ◆ **Implementation is sustained by an individual who understands the business operations**
- ◆ **Cross-functional implementation team encourages “process thinking” and increases chances of success**
- ◆ **Requires increased focus on analytical reporting and less on transaction processing**



Looking Forward to Software Training

- ◆ **Apply ABC modeling using Oros ABCPlus**
- ◆ **Expect only to be familiarized with the OROS software and its capability and to gain a firmer understanding of ABC modeling**
- ◆ **Oros is very versatile but it is complex**
- ◆ **Modeler staffing:**
 - **About 3 months of dedicated effort and training to become capable of producing basic models**
 - **An additional 3+ months to be able to sustain and apply most OROS capabilities**
- ◆ **You will appreciate the need to keep your initial ABC models relatively simple**

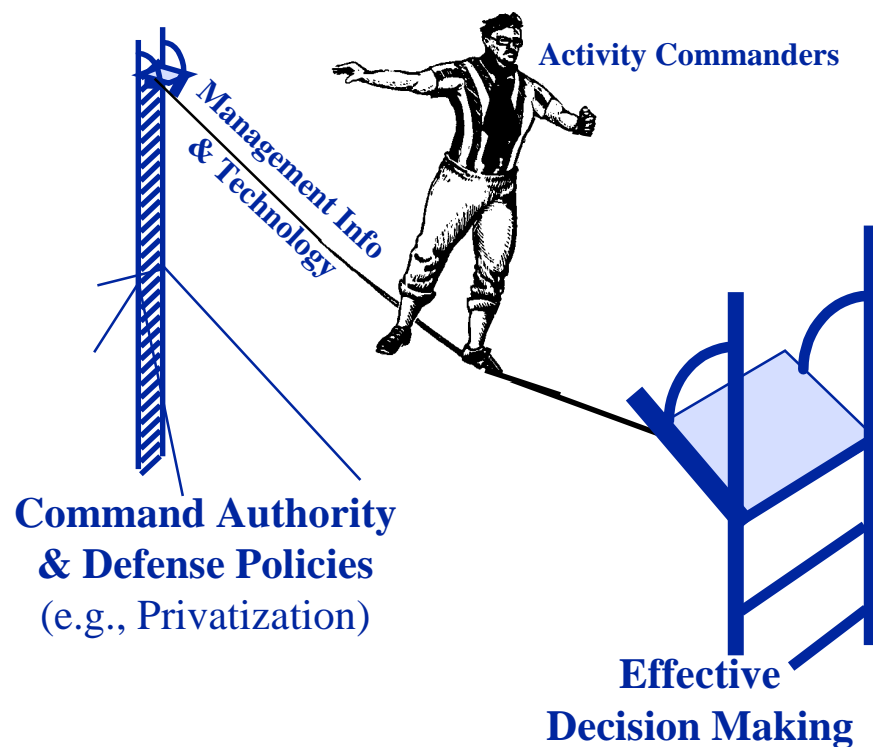


Summary

Using Financial Data Only



ABC/M Can Make the Connection





Summary

“Activity-based management enables managers to exercise wisdom and leadership in decision making.”

**Stephen R. Covey
Covey Leadership Center**